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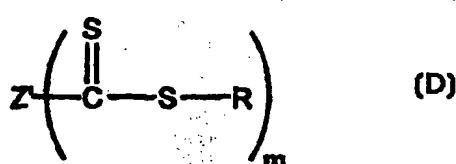
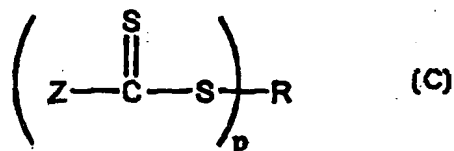
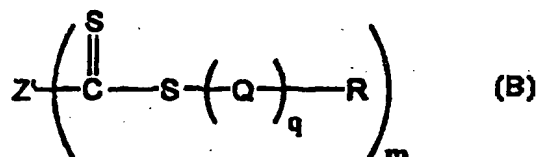
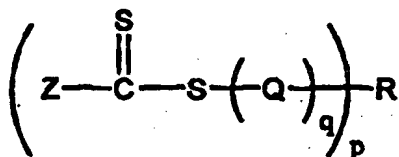


TW 592:7

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : C08F 2/38, C07C 327/36		A1	(11) International Publication Number: WO 98/01478
			(43) International Publication Date: 15 January 1998 (15.01.98)
(21) International Application Number: PCT/US97/12540		(81) Designated States: AU, BR, CA, CN, IL, JP, KR, MX, NZ, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).	
(22) International Filing Date: 3 July 1997 (03.07.97)			
(30) Priority Data: PO 0933 10 July 1996 (10.07.96) AU PO 1109 18 July 1996 (18.07.96) AU		Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.	
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(54) Title: POLYMERIZATION WITH LIVING CHARACTERISTICS



(57) Abstract

This invention concerns a free radical polymerization process, selected chain transfer agents employed in the process and polymers made thereby, in which the process comprises preparing polymer of general Formula (A) and Formula (B) comprising contacting: (i) a monomer selected from the group consisting of vinyl monomers (of structure $\text{CH}_2 = \text{CUV}$), maleic anhydride, N-alkylmaleimide, N-arylmaleimide, dialkyl fumarate and cyclopolymerizable monomers; (ii) a thiocarbonylthio compound selected from Formula (C) and Formula (D) having a chain transfer constant greater than about 0.1; and (iii) free radicals produced from a free radical source; the polymer of Formula (A) being made by contacting (i), (ii) C and (iii) and that of Formula (B) by contacting (i), (ii) D, and (iii); and (iv) controlling the polydispersity of the polymer being formed by varying the ratio of the number of molecules of (ii) to the number of molecules of (iii); wherein Q, R, U, V, Z, Z', m, p and q are as defined in the text.